

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

RECEIVED

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO			<i>Complete if Known</i>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>			Application Number	09/882,193
(use as many sheets as necessary)			Filing Date	June 13, 2001
			First Named Inventor	Empedocles, Stephen Alexander
			Group Art Unit	1651
			Examiner Name	
Sheet <b>3</b> of <b>1</b>			Attorney Docket Number	019916-003810US

APR 01 2002

TECH CENTER 1600/2900

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
✓	AA	6,114,038		Castro et al.	09/05/2000	
	AB	6,207,392	B1	Weiss et al.	03/27/2001	
	AC	6,274,323	B1	Bruchez et al.	08/14/2001	
	AD	6,287,768	B1	Chenchik et al.	09/11/2001	
	AE	6,306,610	B1	Bawendi et al.	10/23/2001	
✓	AF	6,309,701	B1	Barbera-Guillem	10/30/2001	
✓	AG	6,327,410	B1	Walt et al.	12/04/2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
AH								
AI								

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				T <sup>2</sup>
✓	AJ	Chan, et al., "Quantum Dot Bioconjugates for Ultrasensitive Nonisotopic Detection," <i>Science</i> , 281:2016-2018 (9/25/1998)				
✓	AK	Duggan, et al. "Expression Profiling Using cDNA Microarrays" <i>Nature Genetics</i> Supplement, 21:10-14 (01/1999)				
✓	AL	Empedocles, et al., "Photoluminescence from single semiconductor nanostructures," <i>Adv. Mater.</i> , 11(15):1243-1256 (1999)				
✓	AM	Empedocles, et al., "Detection and spectroscopy of single CdSe nanocrystallite quantum dots," <i>Dissertation Abstracts International</i> , 60(12):6163-B (6/2000)				
✓	AN	Empedocles, et al., "9 Photoluminescence from single semiconductor nanostructures," Edited by Wang, Zhong Lin, Charact. Nanophase Mater., pp. 261-287 (2000)				

Examiner Signature	<i>M</i>	Date Considered	<i>May 02</i>
--------------------	----------	-----------------	---------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

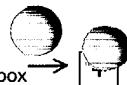
<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

SF 1326219 v1

OVEN  
MAP 25 2002  
PATENT & TRADEMARK OFFICE

Please type a plus sign (+) inside this box



PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

RECEIVED

Substitute for form 1449B/PTO  
**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

4

of

Complete if Known	
Application Number	09/882,193
Filing Date	June 13, 2001
First Named Inventor	Empedocles, Stephen Alexander
Group Art Unit	1651
Examiner Name	
Attorney Docket Number	019916-003810US

APR 01 2002  
TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
M	AO	Empedocles, et al., "Spectral diffusion of ultra-narrow fluorescence spectra in single quantum dots," Matter. Res. Soc. Symp. Proc., 452:335-340 (1997)		
	AP	Empedocles, et al., "Influence of spectral diffusion on the line shapes of single CdSe nanocrystallite quantum dots," J. Phys. Chem., 103:1826-1830 (B 1999)		
	AQ	Empedocles, et al., "Photoluminescence spectroscopy of single CdSe nanocrystallite quantum dots," Physical Review Letters, 77(18):3873-3876 (10/28/96)		
	AR	Empedocles, et al., "Quantum-confined stark effect in single CdSe nanocrystallite quantum dots," Science, 287:2114-2117 (12/19/97)		
	AS	Empedocles, et al., "Spectroscopy of single CdSe nanocrystalites," Acc. Chem. Res., 32:389-396 (1999)		
	AT	Heidelberg, et al. "DNA sequence of both chromosomes of the cholera pathogen vibrio cholerae" Nature, Vol. 406 (08/2000)		
	AU	Helgason, et al. "Bacillus anthracis, bacillus cereus, and bacillus thuringiensis - one species on the basis of genetic evidence" Applied and Environmental Microbiology, 66(6):2627-2630 (06/2000)		
	AV	Koch, et al. "Optical flow-cell multichannel immunosensor for the detection of biological warfare agents" Biosensors & Bioelectronics, 14:779-784 (06/2000)		
	AW	Leatherdale, et al., "Photoconductivity in CdSe quantum dot solids," Physical Review B: Condens. Matter Mater. Phys., 62(4):2669-2680 (07/15/00)		
	AX	Leatherdale, et al., "Charge generation and transport in CsSe semiconductor quantum dot solids," Mat. Res. Soc. Symp. Proc., 571:191-196 (2000)		
	AY	Lee, et al. "Rapid Detection and Identification of Biological and Chemical Agents by Immunoassay, Gene Probe Assay and Enzyme Inhibition Using a Silicon-based Biosensor" Biosensors & Bioelectronics, 14:795-804 (2000)		
	AZ	Mahtab, et al., "Preferential adsorption of a "kinked" DNA to a neutral curved surface: Comparisons to and implications for nonspecific DNA-protein interactions," J. Am. Chem. Soc., 118:7028-7032 (1996)		
	AAA	Mattoussi, et al., "Self-assembly of CdSe-ZnS quantum dot bioconjugates using an engineered recombinant protein, J. Am. Chem. Soc., 122:12142-12150 (2000)		
	ABB	Neuhauser, et al., "Correlation between fluorescence intermittency and spectral diffusion in single semiconductor quantum dots, Physical Review Letters, 85(15):3301-3304 (10/09/00)		
GR	ACC	Rogers, Kim, R. "Principles of Affinity-Based Biosensors" Molecular Biotechnology, 14:109-129 (2000)		

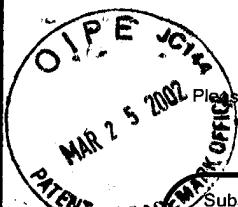
Examiner Signature	<i>M</i>	Date Considered	<i>May 02</i>
--------------------	----------	-----------------	---------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

SF 1326219 v1



Please type a plus sign (+) inside this box

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0151-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

5

of

Complete if Known

APR 01, 2002

Application Number	09/882,193
Filing Date	June 13, 2001
First Named Inventor	Empedocles, Stephen Alexander
Group Art Unit	1651
Examiner Name	
Attorney Docket Number	019916-003810US

RECEIVED  
TECH CENTER  
600/2900

### OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
W	ADD	Shimizu, et al., "Stark spectroscopy investigation of spectral diffusion in single CdSe quantum dots," Electrochemical Society Proceedings, 98(19):280-285 (1999)	
W	AEE	Yu, et al. "Detection of Biological Threat Agents by Immunomagnetic Microsphere-based Solid Phase Fluorogenic- and Electro-chemiluminescence" Biosensors & Bioelectronics, 14: 829-840 (2000)	
	AFF		

Examiner Signature		Date Considered	May 02
--------------------	--	-----------------	--------

<sup>1</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>2</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

SF 1326219 v1